

REMARKS

Favorable consideration and allowance are respectfully requested for claims 23, 24, 26-33, and 35-47 in view of the foregoing amendments and the following remarks.

Claims 23 and 33 have been amended to include a method or apparatus which provides for discontinuous operation. The basis for this amendment can be found on page 9, lines 1-2. Claims 23 and 33 have also been amended to include a method or apparatus which provides for creating steam pressure greater than the ambient air pressure. The basis for this amendment can be found on page 8, lines 15-16 and lines 22-23. Claims 23 and 33 have also been amended to include commas so as to more clearly define the invention. Accordingly, no new matter has been added.

Rejection under 35 U.S.C. § 112, second paragraph

In the Office Action dated April 28, 2003, (the "Office Action"), claim 33 was rejected under 35 U.S.C. § 112, second paragraph, as indefinite. In particular, the Office Action asserts that claim 33, an apparatus claim, improperly includes method language. Amended claim 33 recites "means for closing off the input unit and the discharge element..." Thus, claim 33 has been amended to clearly recite apparatus language relating to closing off the input unit and discharge element. Accordingly, withdrawal of the rejection of claim 33 is respectfully requested.

Rejections under 35 U.S.C. § 103(a)

Claims 23-24, 26-28, 31-33, 35-36, 40-43 and 45-47 were rejected under 35 U.S.C. § 103(a) over Goldner et al., U.S. Patent No. 5,270,000, (Goldner) in view of Davis, U.S. Patent No. 5,277,136, (Davis). This rejection is respectfully traversed.

The claimed invention provides method steps and apparatus elements, which provide for feeding the contaminated material through an input unit to a first treatment zone where the contaminated material is moistened in a liquid reservoir. The contaminated material is then conveyed to a second treatment zone, and ultimately discharged through a discharge element. According to the amended claims, the input unit and discharge element may be closed off during operation and the contaminated material may be heated. This allows for the buildup of steam pressure, in excess of the ambient air pressure, to disinfect or sterilize the contaminated material. Applicant has amended claim 23 to recite a method for the discontinuous treatment of contaminated material, and claim 33 to recite an apparatus for discontinuously treating contaminated material. The method and apparatus are operated discontinuously, as time is required to allow for the buildup of steam pressure for each treatment of contaminated material.

Goldner discloses an apparatus and method for disinfecting contaminated material that utilizes an open system. As shown in Figure 1 of Goldner, contaminated material is passed into a microwave chamber 16 that is open to the atmosphere. The Office Action asserts that Goldner "fails to disclose means for

closing off the input region and discharge region of the treatment chamber.” Without a means to close off the input and discharge regions of the treatment chamber, the Goldner system cannot achieve a steam pressure greater than ambient air pressure, as is provided in Applicant’s presently claimed invention. Likewise, Goldner does not disclose heating contaminated material so as to build up steam pressure. While Goldner does teach heating contaminated material to generate steam, in the open system of Goldner, there is no pressure build up. See column 2, lines 46-51. Further, Goldner does not describe discontinuous operation of the system as is required in Applicant’s present claims.

Davis, in the Abstract of the Specification, discloses a method for disposing of infectious medical waste in a closed system, where air is continuously drawn through the closed system to control the pressure and moisture. Further, in column 5, lines 60-62, Davis teaches that certain advantages of the system include “the low cost of operation that results from the continuous processing of the waste.” Thus, unlike the presently claimed invention, the Davis system is intended for continuous operation.

Like the Goldner system, the Davis system does not normally achieve a steam pressure greater than ambient air pressure, as is provided in Applicant’s presently claimed invention. In fact, Davis teaches away from using a pressurized chamber, pointing out the cost advantage of a system that does not require a pressure vessel. See column 4, lines 43-52. Thus, one skilled in the art

would not be inclined to modify the teachings of Goldner, in view of Davis, using a pressurized chamber.

The Davis system is not closed in the sense that discharge from the treatment chamber is closed off. The Davis system uses a fan to continuously remove air, creating a state of a negative pressure, or near atmospheric pressure. See column 4, lines 36-43. Referring to figure 1, the fan 32 is shown as directing air out of the system. This is supported in the specification in column 4, lines 66-68, stating "[t]he filtered air exiting the fan, and therefore the closed system, is an environmentally clean discharge." Thus, the Davis system is normally open to the atmosphere, if only through a filter and fan. The Davis system could therefore not normally build steam pressure greater than ambient pressure.

Davis does disclose that in the event of a system shutdown, emergency steam injectors direct steam onto any waste contained in the disinfection system at a pressure sufficient to prevent condensation. See column 5, lines 18-33 and column 7, lines 24-35. Davis does not describe how or even if the discharge to the fan is closed off. Davis also describes that after such a system shutdown, the system may need to be dismantled and may require repair. Thus, Davis does not teach the direct use of pressurized steam on waste material as a normal operating feature of the system. In fact, Davis teaches away from the regular use of pressurized steam directly upon waste material. In column 5, lines 65-68, Davis teaches that the "system does not create the extremely foul odors that normally result in systems that rely solely on the direct application of steam...to

the medical waste." Further, in column 4, lines 53-57, Davis teaches that the air circulation withdraws moisture from the waste material and keeps the moisture in the system below the dew point so as to prevent condensation. Thus, one skilled in the art would not be inclined to modify Davis to create a system where steam is regularly used directly upon waste material. Further, the steam in Davis is provided by "multiple emergency steam injectors 94." See column 5, line 19. This is significantly different from the presently claimed invention, where steam is generated by heating the contaminated material.

Given Davis' failure to teach or suggest (i) discontinuous operation and (ii) means to close off the discharge element and generate steam by heating the contaminated material, the resultant combination of Davis and Goldner does not include all of the limitations of the pending claims. Further, given Davis' teaching (i) away from use of a pressure chamber and (ii) away from direct application of steam to waste material, Davis provides no motivation to one skilled in the art to modify the system of Goldner to include the features of the presently claimed invention.

It follows, therefore, that the combination of Goldner and Davis does not disclose or suggest a method or apparatus as claimed by Applicant. Accordingly, withdrawal of this rejection of claims is respectfully requested.

Claims 29-30 and 37-39 were rejected under 35 U.S.C. § 103(a) over Goldner et al., in view of Davis, and further in view of Kline et al., U.S. Patent

No. 5,425,925 (Kline). Kline teaches a multi-stage treatment system for infectious waste. The system involves mixing highly reactive chemicals granulated waste to disinfect the waste. Kline does not disclose or suggest the use of steam pressure in the process. Kline teaches away from systems employing steam and pressure stating that steam based autoclaves present problems including odor, cost, and operational complexity. See column 1, lines 37-40.

The Office Action asserts that Goldner and Davis do not disclose: a mechanism to control the excess water built up from having an inclined chamber; recycling means for the water; and a collection vessel. As indicated above, Goldner does not teach a system that may be closed off where contaminated material is heated in order to build up steam pressure. Further, Davis teaches away from use of a pressure chamber and away from a system that regularly applies steam to waste material. Neither Goldner nor Davis teaches discontinuous operation. Similarly, Kline does not teach a system that may be closed off or where the contaminated material may be heated in order to build up steam pressure. It follows, therefore, that the combination of Goldner, Davis, and Kline does not disclose or suggest a method or apparatus as claimed by Applicant. Further, Kline provides no motivation to modify Goldner or Davis so as to arrive at the presently claimed invention. Accordingly, withdrawal of this rejection of claims is respectfully requested.

Conclusion

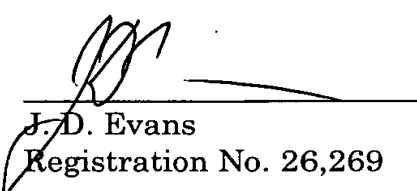
Applicant appreciates the Examiner's indication that Claim 44 would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. At this time, however, Applicant has decided to pursue all of the claims remaining in the application.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

Although an extension of time is submitted herewith, if necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket No. 037303.49442US).

Respectfully submitted,

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